

WHAT IS CLAIMED IS:

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1. A recording medium, comprising:

a substrate;

a recording layer overlying the substrate and  
having a plurality of charge accumulating regions each  
containing a first material capable of accumulating an  
electric charge; and

a photoconductive layer formed on the recording  
layer and having a photoconductive region containing a  
second material whose conductivity is increased by  
light absorption.

2. The recording medium according to claim 1,  
further comprising:

a conductive layer interposed between the  
substrate and the recording layer; and

an insulating layer interposed between the  
conductive layer and the recording layer.

3. The recording medium according to claim 1,  
wherein said recording layer further comprises at least  
one electrically insulating region which electrically  
insulates said plural charge accumulating regions from  
each other.

4. The recording medium according to claim 3,  
wherein said recording layer has a structure that said  
plural charge accumulating regions and said at least  
one electrically insulating region are juxtaposed to  
each other overlying said substrate.

5. The recording medium according to claim 3,  
wherein said recording layer has a dispersing medium  
and said plural charge accumulating regions dispersed  
in said dispersing medium and said at least one  
5 electrically insulating region constitutes at least a  
part of said dispersing medium.

6. The recording medium according to claim 3,  
wherein said recording layer has an insulating layer  
having a plurality of recessed portions on the surface  
10 thereof as said at least one electrically insulating  
region and has a structure that said recessed portions  
are filled with said plural charge accumulating regions.

7. The recording medium according to claim 1,  
wherein said second material is a material whose  
15 conductivity is non-linearly changed in accordance with  
intensity of light irradiating said second material.

8. A recording medium, comprising:  
a substrate;  
a conductive layer overlying the substrate;  
20 a photoconductive layer overlying the conductive  
layer and containing a second material whose  
conductivity is increased by light absorption; and  
a recording layer formed on the photoconductive  
layer and having a plurality of charge accumulating  
25 regions each containing a first material capable of  
accumulating an electric charge.

9. The recording medium according to claim 8,

further comprising an electrically insulating region which electrically insulates said plural charge accumulating regions from each other.

5           10. The recording medium according to claim 8, wherein said second material is a material whose conductivity is non-linearly changed in accordance with intensity of light irradiating said second material.

10           11. A recording medium, comprising:  
            a substrate; and  
            a recording layer overlying the substrate and having a plurality of charge accumulating regions each containing a first material capable of accumulating an electric charge and a photoconductive region containing a second material whose conductivity is increased by  
15           light absorption.

12. The recording medium according to claim 11, further comprising:

            a conductive layer interposed between said substrate and said recording layer; and  
20           an insulating layer interposed between said conductive layer and said recording layer.

13. The recording medium according to claim 11, wherein said second material is a material whose conductivity is non-linearly changed in accordance with  
25           intensity of light irradiating said second material.

14. A recording apparatus, comprising:  
            a recording medium comprising a substrate and a

recording layer overlying the substrate and having a plurality of charge accumulating regions each containing a first material capable of accumulating an electric charge, said recording layer further comprising a photoconductive region containing a second material whose conductivity is increased by light absorption or said recording medium further comprising a photoconductive layer in contact with the recording layer and having the photoconductive region; and

a recording head arranged to face the main surface of said recording medium and comprising a light emitting section emitting light toward the recording layer and an electrode being adjacent to said light emitting section and utilized in injecting an electric charge into at least one of said plural charge accumulating regions.

15. The recording apparatus according to claim 14, wherein said light emitting section emits a near field light as said light.

16. The recording apparatus according to claim 14, further comprising a reproducing head arranged to face said recording medium and reading information corresponding to the amount of charge accumulated in said plural charge accumulating regions.

17. The recording apparatus according to claim 14, wherein said recording medium has a laminate structure of said recording layer overlying said substrate and

said photoconductive layer formed on the recording layer.

18. The recording apparatus according to claim 14, wherein said recording medium further comprises a  
5 conductive layer and has a structure that said conductive layer overlying said substrate, said photoconductive layer is formed on said conductive layer, and said recording layer is formed on said photoconductive layer.

10 19. The recording apparatus according to claim 17, wherein said recording medium further comprises:

a conductive layer interposed between the substrate and the recording layer; and

15 an insulating layer interposed between the conductive layer and the recording layer.

20. A recording method of recording information by injecting an electric charge into a charge accumulating region containing a first material capable of accumulating the charge, comprising the steps of:

20 irradiating a photoconductive region arranged in contact with said charge accumulating region and containing a second material whose conductivity is increased by light absorption with light; and

25 injecting an electric charge into said charge accumulating region via a portion of the photoconductive region irradiated with light.